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News Bulletin of The Entomological Society of Victoria Inc.

THE ENTOMOLOGICAL SOCIETY OF VICTORIA (Inc)

MEMBERSHIP

Any person with an interest in entomology shall be eligible for Ordinary membership. Members of the Society include professional, amateur and student entomologists, all of whom receive the Society's News Bulletin, the Victorian Entomologist.

OBJECTIVES

The aims of the Society are:

(a) to stimulate the scientific study and discussion of all aspects of entomology,
(b) to gather, disseminate and record knowledge of all identifiable Australian insect species,
(c) to compile a comprehensive list of all Victorian insect species,
(d) to bring together in a congenial but scientific atmosphere all persons interested in entomology.

MEETINGS

The Society's meetings are held at room AG17, La Trobe University Carlton Campus, 625 Swanston Street, Carlton, Melway reference Map 2B E10 at 8 p.m. on the third Friday of even months, with the possible exception of the December meeting which may be held earlier. Lectures by guest speakers or members are a feature of many meetings at which there is ample opportunity for informal discussion between members with similar interests. Forums are also conducted by members on their own particular interest so that others may participate in discussions.

SUBSCRIPTIONS

Ordinary Member	$20.00
Country Member	$16.00 (Over 100 km from GPO Melbourne)
Student Member	$12.00
Associate Member	$ 5.00 (No News Bulletin)

No additional fee is payable for overseas posting by surface mail of the news bulletin. Associate Members, resident at the same address as, and being immediate relatives of an ordinary Member, do not automatically receive the Society's publications but in all other respects rank as ordinary Members.

Cover design by Alan Hyman.

Cover illustration of *Synlestes weyersii tillyardi* (O.: Synlestidea) ♂ by Catherine Symington.

MINUTES OF THE GENERAL MEETING, 12 DECEMBER 1997

The President, A. Kellehear, opened the General Meeting at 8:11 pm

Present: D. Dobrosak, K. Dunn, I. Endersby, I. Faithfull, A. & E. Farnworth, A. Kellehear, R. MacPherson, D. & N. Stewart.

Visitors: L. Dunn, M. Endersby, V. MacPherson

Apologies: E. & P. Grey.

Minutes:

Minutes of the 17 October 1997 General Meeting [Vic. Ent. 27(6):105] were accepted (R. MacPherson/D. Stewart).

Treasurer's Report: The Treasurer presented the financial statement as of 12 December 1997:

Account balances stand at: General Account $4,334; Le Souëf Award Account $3,264. Membership is 102 including 7 Associate members and 10 subscribers. (I. Endersby/A. Farnworth).

Editor's Report:

The Editor reported that articles were required for the February and April issues of *Victorian Entomologist*.

Correspondence:

- An updated list of Schedules 2 & 3 to the Flora and Fauna Guarantee Act 1988 from the Department of Natural Resources and the Environment (DNRE).

General Business:

Membership: Prof. R. Kitching was elected to membership. Applications for membership were received from J. Tinetti, C. Peterson and J. Weemaes.

1997 Zoo Le Souëf Award: D. Dobrosak announced that no award will be made this year.

Members Night: Exhibits/Presentations

(1) K. Dunn showed an edited video of his recent European tour with topics of biological interest. Included were close-ups of a variety of live butterflies in Rome, Amsterdam and Paris such as Machaon Swallowtails, Wall Browns, Tortoiseshells, Red Admirals, Sulphurs, Brimstones and Large Whites as well as several blues, coppers and skippers. The video showed 16th-17th Century masterpieces in the Rijks Museum (Amsterdam) depicting insects; also Sepp's butterfly cabinet (circa 1750), and parts of the Orange-Nassau insect collection, in Leiden, preserved in original artistic format popular during the late 18th Century. Of note to all those with an interest in our entomological history was the opportunity to see, albeit on video, parts of the Joseph Banks' collection in London showing the earliest specimens of Australian insects collected on Captain Cook's voyage in 1770.

(2) R. MacPherson presented slides and a display of specimens from his recent trip to Bali and Lombok. R. MacPherson's slides, commentary and unusual presentation methods were well received by those present.

(3) D. Dobrosak presented a preliminary report on the results of the first survey to the Organ Pipes National Park which was held on 9 November 1997.

(4) I. Faithfull displayed a specimen of prickly pear cactus infested with *Cactoblastus cactorum* from Eldorado near Wangaratta. Ian reported that *Cactoblastus* is relatively unsuccessful as a bio-control agent against prickly pear in most parts of Victoria due to the relatively cold climate. Ian also displayed insect specimens which have been found on dock (*Rumex* sp.).

(5) N. Stewart displayed photographs of the members and friends at the survey of the Organ Pipes National Park held on 9 November 1997.

The meeting was closed by the President at 9.27 pm after which those present enjoyed a light supper and pleasant conversation.

EXCURSION/FIELD SURVEY TO ORGAN PIPES NATIONAL PARK, KEILOR

Survey No. 3 10 am Saturday 28th February 1998

Organ Pipes National Park is approximately 20 km north-east of Melbourne, on the north side of the Calder Highway just before Calder Park Thunderdome. Meet at 10AM at the Visitor's Car Park, Organ Pipes National Park off the Calder Highway on the North side of the Calder Highway just before Calder Park Thunderdome (DNRE telephone number is 03 9390 1082). The Melway reference is Map 3 D4.

Bring lunch and drinks with you. The walk down to the Organ Pipes is reasonably steep and it is recommended to bring your lunch and drinks down to the main flats.

New and old members are encouraged to take part in this survey. The December 1997 survey added several species of small to medium sized cerambycidae (long horned beetles) and buprestidae (jewel beetles). The buprestidae and many other beetles were plentiful on the *leptospermum* along Jacksons creek.

All the major aquatic insects were found i.e. Odonata (dragonflies & damselflies - nymphs and adults), Plecoptera (stoneflies - nymphs and one adult), Tricoptera (caddisflies - nymphs and adults) and Ephemeroptera (mayflies - nymphs).

Survey work will continue on 28 February with the collection and identification of. Lepidoptera, Coleoptera and Aquatic insects in accordance with the Society's research permit (NP 978/102)

BIOLOGICAL NOTES ON SOME EASTERN AUSTRALIAN BUTTERFLIES PART III

Kelvyn L. Dunn
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Summary: new confirmed and probable larval hosts, alternative diets, ant attendance records and/or associated biological notes are recorded for one or more of the following species: *Delias harpalyce* (Donovan), *Ogyris amaryllis* (Hewitson), *Jalmenus icilius* Hewitson, *Pseudalmenus chlorinda* (Blanchard) and *Hypochrysops digglesii* (Hewitson). In addition, *Cephrenes trichopepla* (Lower) is recorded from Victoria for the first time.

HESPERIIDAE

Cephrenes trichopepla

On 26 July 1995, at a nursery in Glen Waverley Vic., I found a single mature larva of this palmdart species on a two metre high potted *Phoenix canariensis*. This is the first evidence of the species near Melbourne. No other larvae of this more or less tropical skipper were encountered on palms at this nursery or in the adjacent residential area so it would appear the record is unique. As the palm was potted it is safest to assume the larva had resulted from an egg laid in Queensland (or elsewhere). The larva appeared healthy, in spite of the prevailing mid winter conditions to which it had been exposed for an unknown period, but, unfortunately, I do not know whether it survived to adulthood as the host palm (including the larva) had been sold by my next visit.

Soon after (on 1 Aug. 1995), in the nearby suburb of Dingley, I found evidence of a well established population of *C. augiades*. A number of larvae of various ages were present in suburban gardens but there was no evidence of *C. trichopepla* amongst them. In spite of occasional entry of larvae on potted palms, it seems that *C. trichopepla* has not as yet established in Victoria.

PIERIDAE

Delias harpalyce

Braby and Douglas (1992) recorded larvae utilising three common species of Loranthaceae near Melbourne, viz. *Amyema miquelii*, *A. pendulum* and *Muellerina eucalyptoides*. In addition, these authors drew attention to a unique report on *A. quandang* which they stated was unconfirmed; Nigel Quick (pers. comm 1997) was present at the time of the observation and vouches for the record's authenticity. In captivity, larvae will accept foliage of *Dendrophthoe vitellina* (Dunn & Dunn 1991; see also Braby & Douglas 1992).

In addition to members of the Loranthaceae, two species of Australian *Delias* also utilise the Santalaceae (Dunn & Dunn 1991, McLean 1993). During 1996, several Victorian *D. harpalyce* larvae of varying instars, obtained from *A. pendulum*, were proffered foliage of Native Cherry (*Exocarpos cupressiformis*; Santalaceae). All larvae perished, seemingly, without having attempted to feed. Two of the larvae experienced diarrhoea before dying. This infers that *Exocarpos* spp., and probably other members of Santalaceae too, are not utilised by this butterfly.

In July 1992 a number of pupae from 4 km ENE of Upper Beaconsfield (adjacent Hamilton Reserve) were found on *A. pendulum*. Four, left outdoors at Dandenong Vic., emerged from the 10th-17th August. Several, placed in a refrigerator for about 5-6 weeks at about 4°C, emerged crippled on and after the 9th September (about three weeks after their return to room temperature - about 22°C - at Beenleigh Q.). It appears that attempting to prolong the pupal duration by this method risks desiccation of the pupae as they continue to consume finite energy reserves. No differences were noted in the adult patterns or coloring between the two samples. The passing reference to refrigeration inducing weakness in "temperate *Delias*" in Dunn (1995b) was based on this trial.

During 1995-96 I noted that *D. harpalyce* sometimes utilises the same individual hosts from season to season, occasionally evidenced by earlier webs and pupal fragments. On two or more occasions near Melbourne many larvae were found on aged, mature, *A. pendulum*, and in each case the mistletoe perished after near or complete defoliation in the final season of observations. At least one of these mistletoes had been used successively by some three generations of larvae and, remarkably, juveniles were absent from several of the other nearby mistletoes which seemed in far healthier condition. I wondered whether the previous pupal web and fragments attracted ovipositing females (*cf.* findings for *Jalmenus* by Kitching 1987), or maybe they selected senescent larval hosts? However, larval development on semi-defoliated mistletoes proved much slower (by several weeks) than on the healthier plants.

I do not know of any previous accounts of mistletoe death attributed directly to *Delias* larvae, but from my observations it seems regular usage weakens the mistletoe and, in time, complete defoliation will kill it. Although the hosts died, coincidence or otherwise, the larvae did not strip them fully until all were ready to pupate!

Finally, larvae feeding on mistletoes previously infected with an insect virus (i.e. dead uncolosed pupae still present) will also succumb to the same infection in one or more subsequent generations. The haunting webs, laden with pupae from two broods which failed to emerge, are evidence that females cannot recognise infected hosts - unsuitable for their eggs.

LYCAENIDAE

Hypochrysops digglesii (Hewitson)
In early June 1997, one pupa, a number of eggs and 15 larvae were found on *Dendrophthoe vitellina* (Loranthaceae) growing on a *Banksia* sp. in woodland near Big Crystal Creek just west of Mutarnee Qld. Most larvae were attended by varying numbers of ants of *Crematogaster australis* (sp. group); solitary young larvae attracted one or two ants and older larvae, three or four. However, when resting communally in shelters, older larvae could be attended by a dozen or more ants (*cf.* findings by Wragg & Elgar 1997 for *Pseudalmenus*). In this respect the larvae are semigregarious and, where shelters are large enough (in captivity), three or more larvae will nestle into each other similar to some *Ogyris* spp. Akin to this, larvae do not seem to be cannibalistic and will pupate communally when possible. In the field, however, they are usually enforced loners as their curled leaf shelters cannot hide more than one or two mature individuals. The pupal duration varied from 11-13 days (mean 12d; n=8) among larvae reared at a constant temperature of about 27-28°C. A sex ratio of 1:2 (♂♂:♀♀) was obtained (n=8).

Eggs are laid singly or in pairs along ant trails on mistletoe stems and branches (see also Braby 1997) and also on the silk enclosed, curled, dead leaves in which both attended larvae and pupae sheltered. The larvae reinforced shelters with strands of silk, fastening the dying or dead leaves to the host plant. Younger larvae rout the leaves creating excavations unique to this species (see

also Dunn 1995a), but mature larvae will consume leaf sections (see also Braby 1997) in the characteristic fashion of *Ogyris*. Indeed, *H. digglesii* larvae are remarkable mimics of *Ogyris* with which they could be initially mistaken. The dorsal patterns are atypical of that genus, however, and, to me, seem a little reminiscent of *Hypochrysops apelles*. The pupa of *H. digglesii*, like that of a congener, *H. delicia*, shows an elongation of the abdomen near the posterior; this region is broader and more rounded in *Ogyris*. From one pupa emerged a chalcid wasp (*Brachymeria* sp.) and a third instar larva had been infected with a single braconid wasp.

The early stages are normally nocturnal, but a single mature larva was seen feeding on the host during late afternoon (see also observations by Braby 1997). This larva, which first drew my attention to the colony, was not attended by any ants, and died the following morning in captivity, seemingly having drowned in vomit. The mess involved was reminiscent of a parasitoid having emerged from the anterior end but none was present so, presumably, death was by disease. Ants may be able to distinguish and reject ill or perishing individuals, or perhaps they will not tend larvae which venture from the curled leaf shelters during daylight hours.

In captivity larvae readily (and more or less equally) accepted foliage of *Amyema pendulum*, *A. quandang* and *Muellerina eucalyptoides* (all Loranthaceae) from Victoria. As with the natural host they seemed to prefer the middle-aged foliage, and young larvae (third instars) also mined the leaves (creating open tunnels and pits) in all three proffered mistletoes. As in the field, flowers, buds and very young growth were not readily consumed. In addition, a third instar and a mature larva were proffered *Exocarpos cupressiformis* (Santalaceae) on which, remarkably, they commenced to feed and continued development! The mature larva pupated about nine days later, but the young larva perished after emergence of a braconid which created a white cocoon beneath it.

A few other hosts of *Hypochrysops* were trialed. Larvae refused foliage of several *Acacia* spp. (Mimosaceae). A third instar and mature larva were proffered *Pomaderris aspera* (Rhamnaceae). After 36 hours on this plant the third instar was found dead on the stem. No feeding had occurred on any leaves but some stems appeared to have had the pubescence extensively consumed especially near where the larva died. The leaves also contained reddish vomit trails in places and matching vomit was present on the anterior end of the dead larva. Circumstantial evidence suggests the larva had attempted to feed and the pubescence proved toxic. The mature larva, however, had entered the prepupal stage when next examined and it remains uncertain as to whether it attempted to feed. Sometimes lack of host plant or poor quality food will stimulate premature pupal ecdysis in near mature lycaenid larvae (eg. *Jalmenus*). Neither larva defecated during the brief trial.

Larvae of *H. digglesii* utilise at least eight loranthaceous mistletoes belonging to three genera viz. *Dendrophthoe glabrescens* (Dunn 1995a), *D. homoplastica* (Braby 1997), *D. vitellina*, *Muellerina celastroides*, *Amyema conspicuum* (Common & Waterhouse 1981), *A. sanguineum*, *A. bifurcatum* and *A. miquelii* (Braby 1997). The ability of larvae of various ages to transfer to new diets, sometimes involving different families, genera and to species as yet unrecorded in the wild, suggests this lycaenid will be found to utilise other species within these or allied genera in the field. *Hypochrysops* utilise a remarkable variety of host families, but *Ogyris* larval mimicry, refusal of *Acacia* and abrupt mortality on *Pomaderris* suggests the species, in evolutionary terms, is distantly removed from at least the *ignitus* and *byzos* groups.

Pseudalmenus chlorinda

In January 1996 several larvae, associated with the usual attendant ant, *Anonychomyrma biconvexa*, were found feeding on a single sapling of *Acacia decurrens* (Mimosaceae), a naturalised species, which was growing amongst a stand of *A. dealbata* at Kallista Vic. (see brief mention in Feb. 1996 'On the Grapevine' column - *Vic. Ent.* 26: 18 prior to confirming the identity of the plant). At Kallista (picnic ground), Wragg and Elgar (1997) recorded *P. chlorinda* larvae on both *A. melanoxylon* and *A. dealbata* (but not on *A. decurrens*) during studies of myrmecophily conducted over two years in 1994-96. However, since my observations, S. Wragg (pers. comm. 1997) has also confirmed usage of *A. decurrens* at this locality. *P. chlorinda* is now known to utilise nine hosts (Dunn & Dunn 1991, Faithfull 1986, this paper).

Jalmenus icilius

During mid morning (10:30am ESST not CST) of 1 March 1997 (temp.: 30°C) on a quartz hilltop at Broken Hill NSW (White Rocks Reserve) numerous males were found perching on several *Acacia tetragonophylla* (Mimosaceae), about which many females were seen fluttering. A few males were feeding at nearby flowering mulga (*Acacia aneura*) which is also a known larval host (Common & Waterhouse 1981) but adults were not otherwise associated with this wattle species at this locality. *A. tetragonophylla* was not flowering at the time.

The bases of several *A. tetragonophylla* shrubs harboured nests of *Iridomyrmex* sp.A (*rufoniger* group (Lowne)). The ants were first noticed swarming over the stems and foliage of the plants. Based on the generic behaviour of this theeline group (i.e. *Jalmenus* adults perch on and are highly localised about their foodplants), this evidence implicates *A. tetragonophylla* as a larval host of *J. icilius* in this region of outback New South Wales. Moreover, Common and Waterhouse (1981) earlier recorded the *rufoniger* group of ants as the attendants of *J. icilius* at Yanco in inland southern New South Wales. Dunn and Dunn (1991) list 12 larval hosts for this butterfly, whilst others have since been added by Douglas and Braby (1992), Crosby (1994), Grund (1996) and Williams *et al.* (1996). The inclusion of *A. tetragonophylla* brings the total to about 17, most of which are *Acacia* spp.

Ogyris amaryllis meridionalis

At White Rocks Reserve where the *J. icilius* were found (see above), the mistletoes *Lysiana exocarpi* and *Amyema preissii* heavily infested some of the *A. tetrogonophylla* bushes. At 11:30am ESST (not CST) an *Ogyris amaryllis* female was seen crawling along stems of *A. preissii* - a known larval host (Atsatt 1981). Within minutes male *O. amaryllis* were encountered perching on the wattle near this same mistletoe plant. *Ogyris amaryllis* did not appear at the site until after 1130 hrs about which time three males were seen simultaneously in a territorial interaction about a metre above ground. *Iridomyrmex* sp.A (*rufoniger* group (Lowne)) ants were also swarming along the stems of the mistletoe, and appeared associated with this lycaenid butterfly in the Broken Hill area. In support of this, Common and Waterhouse (1981) recorded the *rufoniger* group attendant on *O. amaryllis* larvae in southern inland New South Wales. In addition, Atsatt (1981) found this to be the attendant ant at five sites over a wide region of inland New South Wales, inland South Australia and in southern Northern Territory, and recently Williams *et al.* (1997) recorded a similar relationship in Western Australia.

Acknowledgements

The *D. vitellina* was identified by Dr B.A. Barlow (CSIRO), but the other mistletoes, palms and Victorian wattles etc. were identified by the author. Some NSW plant names cited were based on accompanying botanical plaques. Dr A. Anderson (CSIRO) kindly identified the *Iridomyrmex* (s.s.) and *Crematogaster* ants mentioned, and Dr Malipatil examined the chalcid wasp. Finally, thanks to S. Wragg for her recent observations.

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AUTHOR INDEX TO VOLUME 27 (1997) OF THE *VICTORIAN ENTOMOLOGIST*

Compiled by D. Dobrosak

Atkins, A.	Biological and Distributional Notes for some Southern Australian Skipper Butterflies	3
Braby, M.F.	Expansion of Range of *Hypochrysops byzos* (Lycaenidae) Near Melbourne.	28
Dobrosak, D.	Report on Kinglake National Park Survey	120
Dunn, K.L.	Corrective Notes on *Ocybadistes walkeri* Heron (Lepidoptera: Hesperiidae).	31
Dunn, K.L.	*Telicota* Moore (Lepidoptera: Hesperiidae) in Victoria, Part II.	81
Dunn, K.L.	Biological notes on some Eastern Australian Butterflies Part III	114
Endersby, I.	Insect Behaviour (1)	79
Endersby, I.	Insect Behaviour (2)	100
Endersby, I.	Insect Behaviour (3)	113
Faithfull, I	Three *Melobasis* Species (Buprestidae) Reared from *Acacia sophorae* (Mimosaceae) from Saint Margaret Island, South Gippsland.	23
Faithfull, I.	*Etiella behrii* (Zeller) (Lepidoptera: Pyralidae) Bred from Pods of Gorse, *Ulex europaeus* L. (Fabaceae).	34
Grund, R.	Additional Range Extensions, New Foodplant Recordings and Biology for some Rarer South Australian Butterflies Including the Life History for *Candalides cyprotus cyprotus* (Oliff)	7
Grund, R. & Hunt, L.	New Butterfly Records and New Range Extensions, Foodplant Recordings and Biology for some Butterflies from the Lower South-East Region of South Australia.	50
Grund, R.	A List of Butterflies in the Kath Alcock Collection from the South-East Region of South Australia	68

Holmes, D. & J.	Some Observations of a Late Trip to the North Eastern Mountains	71
Kellehear, A.	The Romance of Insects in European Art - 1997 Presidential Address.	107
Lane, D.A., Wilson, D.N. & Meyer C.E.	New :Distribution Records and .Notes for *Opodiphthera loranthi* (Luc.) Lepidoptera: Saturniidae. (with correction page 49).	27
Newland , G.	Butterfly Species Richness at Four Hilltops in Northern Coastal New South Wales.	72
Powell, R.	Garden Observations of the Australian Admiral Butterfly	88
Valentine, P.S.	Field Recognition of the Tiny Grass Blue Butterfly, *Zizula hylax attenuata* (T.P. Lucas).	80
Valentine, P.S. & Johnson, S.J.	Life History Notes on the Genus *Catopyrops* Toxopeus (Lepidoptera: Lycaenidae) from Northern Australia	101
Webb, G.A.	Patterns in the use of *Acacia longifolia* (Andr.) Willd. (Mimosaceae) by Wood-Boring Insects.	54
Williams, M.R. & Atkins, A.F.	Notes on some Western Australian Butterflies.	44
Author Index	Volume 26 (1996) of the Victorian Entomologist	15
Award	1996 Winner of Zoo Le Souëf Memorial Award - R.V. Hay	5
Book Review	A Guide to the Genera of Beetles of South Australia Part 7 Polyphaga: Chrysomeloidea; Cerambycidae.	119
Research Permit	RP-97-079 - Wildlife Act 1975	102
Software Review	CD-ROM: 'Victorian Butterfly Database'	35

SELECTION OF PUPAL SITE BY LARVAE OF *TRAPEZITES SYMMOMUS* (LEPIDOPTERA: HESPERIIDAE)

W.N.B. Quick, 5 Nash Road, Bunyip, Victoria

Having only recently read the Report on the So to Jell's Park, (Vic. Ent. 25(5) October 1995). Peter Carwardine's remarks on searching foliage of *Lomandra* and *Gahnia* for larvae and pupae of various hesperiids immediately came to mind. More especially perhaps, as *Trapezites* larvae almost invariably leave the host in order to pupate in and amoungst leaf litter and debris.

On January 18th , 1998, the writer was tidying the paved verandah along the north side of his home at Garfield North prior to moving house. In so doing, a cubic 'milk crate' type of plastic box (which was used to store a small reserve of cut kindling), was shifted and emptied of debris. One small tuft of dry leaves remained, attached to one side, near the bottom. Believing this was just a small, cobwebby accumulation of debris, it was roughly brushed off, but instead of a disturbed spider, a live Pupa of *Trapezites symmomus* dropped out.

This interested me, as I have a large colony of *Trapezites symmomus* on a huge old plant of the tropical *Lomandra hystrix* in the garden. But this plant, in a direct line, was 9.65m away. For a sluggish larva, that is quite some distance. Add to this negotiating a granite rockery, climbing 20-25cm up a brick edge onto the verandah, and a 30cm climb up the smooth plastic box, and (if it did not fall) another 30cm down the inside, and this becomes an absolute minimum of 10.50m. Quite a jaunt.

A comprehensive search for potential Pupal sites of larvae from that plant would thus involve some 350 square meters. Up to 10 larvae (mainly 3rd. instar) have been counted feeding at night on foliage in late spring, and probably as many were never detected. On this basis, if indeed there were 20 larvae present, one might expect to search some 17.5m^2 for each larva located. Certainly, areas closer to the host may normally be preferred, but on the other hand there is no evidence that a 10.50m radius represents a maximum.

The obvious answer is to search for this common and widespread skipper in the larval stages, and rear them either on potted plants or on cut foliage. Good hunting, Peter.

Acknowledgement

My thanks to Kelvyn Dunn for is encouragement and helpful comments.

SUMMARY OF VICTORIA'S BOX-IRONBARK FORESTS AND WOODLANDS INVESTIGATIONS RESOURCES AND ISSUES REPORT

The Environment Conservation Council (ECC) has released a comprehensive 265 page document on Victoria's Box-Ironbark Forests and Woodlands. The ECC was established in mid 1997 under the Victorian Government's *Environment Conservation Council Act 1997* and replaces the previous Land Conservation Council.

The primary purpose of the ECC is to investigate the balanced use and development of public land and its associated flora, minerals and water.

The terms of reference of the Report are to "...identify and evaluate the extent, condition, values and uses of the Box-Ironbark forests and woodlands". Recommendations will be addressed in subsequent reports and a recommendation is to be submitted to the Minister by the end of 1998. The Study Area is shown in the map on page 12. The land to be investigated must be "public Land". Public Land includes all State Forests, State Parks and National Parks. The study area is approximately within the borders of a clockwise line drawn between Stawell, Charlton, Echuca, Wodonga, Benalla, Seymour and Ararat. The cost of the Report is $14 and the ECC may be contacted on telephone 03 9412 5588, country callers 1800 134 803 for availability details.

The report includes a back pocket containing 5 colour maps of (a) Land Use, (b) Ecological Vegetation classes on public land, (c) Earth Resources (and sites of geological & geomorphic significance), (d) Broad Vegetation Types (with remaining tree cover) and (e) Geomorphic Units and Major Land Systems.

The investigation report includes a detailed overview of the history of the Study Area, its physical resources, flora, fauna and current usage of the resources within the Study Area. A comprehensive definition of the Box-Ironbark Forests and Woodlands is given. It should be noted that the Report includes Forests and Woodlands other than Box-Ironbark such as Gravelly-sediment Mallee, Heathy Dry Forest, Granitic Hills Woodland etc. The terms used in the Vegetation classification systems are fully described in the Report and shown on the colour maps included with the document.

The status of the vertebrate fauna is relatively well known in the Study Area. The Report states that 6 mammals have become extinct in the Study Area, these are the eastern quoll, rufous bettong, eastern hare-wallaby, bridled nailtail wallaby, white-footed rabbit-rat and the 'pure' form of dingo. Avifaunal species that are known to be rare or in decline in the Study include the emu, malleefowl, bush stone-curlew, superb parrot, blue bonnet, regent honeyeater and grey-crowned babbler. Distribution maps of significant faunal species are included in the Report.

The report states that the information on invertebrates is sparse considering the large number of species involved. Much of the data available for the area is from pitfall traps as part of the current box-ironbark invertebrate survey (37 orders). The Museum of Victoria Entomology database has records of 381 species of insects from the Study Area but this database is currently limited to type material and butterflies. Collection by pitfall traps, sweeping and direct searching in the northern plains grey box woodlands revealed 34 orders of invertebrates [Yen. A.L., Hinkley, S.D., Horne, P.A., Milledge, G.A. and New, T.R. (1996). *Development of invertebrate indicators of remnant grassy-woodland ecosystems.* Report to the Australian Nature Conservation Agency Save the Bush Program]. Notwithstanding the relative lack of invertebrate data, the following species are listed as threatened or included in the Threatened

Fauna List for Victoria (CNR 1995). These species are: Large ant blue butterfly, Fiery jewel, Icilius blue, Genoveva azure, Eltham copper butterfly, Sun moth, Golden sun moth and Bullant *Myrmecia* sp. 17. It is significant that all but one of the threatened invertebrate species are Lepidoptera.

The report details the known usage of the public land within the Study Area. This usage includes water production, hardwood production and harvesting, softwood production, agriculture, grazing, mining, eucalyptus oil production, mining, recreation and tourism, fossicking and prospecting, four-wheel driving and apiculture.

Submissions are invited from interested persons or organisations on the balances use of Box-Ironbark Forests and Woodland areas in the Study Area. The submissions should be lodged with the ECC by Monday 9 March 1998.

A second consultation stage will follow the publication of the ECC's Provisional Report on recommendations for the balanced use of Box-Ironbark public Lands.

Should any readers have any relevant invertebrate data applicable to the Study area or know of any unique areas within the Study Area, they are encourage to send a submission to the ECC. The Society's Council would be pleased to offer assistance in preparing a submission.

The Box-Ironbark Forests and Woodlands Study Area is shown in black on the map at right.

Public land comprises approximately 14.3% of the study area. and the Study Area ilself represents approximately 14% of the total area of Victoria.

11% of the public land within the Study Area has tree cover

Request For Old Entomological Memorabilia

Bert Candusio, senior curator of the Insectarium of Victoria is preparing a display to show the materials and methodology used by Australian entomologists at the turn of the century.

If any members have old equipment or supplies that would be suitable, they may be brought to the next general meeting or sent directly to Bert Candusio c/o the Insectarium of Victoria. Suitable items could include old microscopes, hand lenses, pin boxes, old spreading boards, store boxes etc.

REQUEST FOR RECORDS OF *TOXIDIA PARVULUS* (PLÖTZ) (LEPIDOPTERA: HESPERIIDAE) IN VICTORIA LATER THAN 1945

Nigel Quick is seeking records of *Toxidia parvulus* in Victoria later than 1945. It seems that *T. doubledayi* has become a more commonly encountered butterfly throughout Victoria over the same period. The larvae feed on common grasses (Poaceae) and have a similar geographic distribution ie. following the south-eastern coast of Australia down to approximately the Melbourne region. *T. parvulus* has been found mainly in open eucalypt forest whereas *T. doubledayi* has been recorded from both rain forest and eucalypt forest (refer to Common & Waterhouse 1981, *Butterflies of Australia. 139 - 140*).

The apparent scarcity of *T. parvulus* is obviously worthy of investigation. Hopefully the lack of records only reflects a declining trend in collection and/or recognition of this skipper.

Please send any records you may have either directly to N. Quick or via the Editor.

THE *INSECTARIUM OF VICTORIA* HAS MOVED TO A NEW LOCATION AT WOODEND

The Insectarium in now situated adjacent to the Woodend railway station

The extensive collections and live displays including the Tasmanian Giant Crayfish, *Astacopsis gouldi*, have been relocated to more spacious accommodation at Woodend.

The Insectarium of Victoria is continuing with its education and invertebrate awareness programs in accordance with its charter and have successfully linked with the Hanging Rock Reserve where demonstrations and interpretations of the role of invertebrate in the ecology of the bushland are made.

Location:

Insectarium of Victoria
Calder Highway
Woodend, Victoria 3442

Telephone: 0354 27 2222

Opening Hours:

10 am to 4 pm, 7 days a week (except Christmas day). Evening tours can be arranged by appointment.

Admission:

Adults (16 yrs and over) $8, Children (4 yrs and over) $5, Children under 4 yrs, free.

Scenes from Organ Pipes National Park Survey held on 9 November 1997

Councillors examining a caddisfly. From left to right, Daniel Dobrosak, David Stewart and Ian Endersby.

Survey participants enjoying a well earned break. From left to right, Elsbeth Sacco, Pat Grey, Ed Grey and Erich Sacco.

RECENT ARTICLES OF INTEREST

Compiled by Ian Faithfull

Meredith, K., Call to boost sterile flies. *Weekly Times* 10 December 1997 p.16.; Grower blamed in fruit fly grab. WT 21 January 1998 p.4; New move to fight fruit fly. *WT* 28 Jan. 1998 p.12. Dr Malcolm Campbell of Sunraysia Horticultural Centre suggests that the Sydney fruit fly factory could increase production to 20 million sterile flies a week, some of which could be used to suppress fly populations in areas outside the fruit fly exclusion zone. The Fruit Fly Pathway Project aims to identify high-risk areas where fruit fly infested fruit could enter the Sunraysia region. Road blocks established as part of the project have intercepted infested fruit. A Sunraysia fruit grower is suspected to be the person intercepted at a Wentworth roadblock carrying infested bananas, tomatoes, mangoes and apples from Bowen, Qld., "one of the highest risk places for fruit fly". Dr Campbell "said the person drove past two sets of roadside signs and bins set up for motorists to dispose of the fruit". Road blocks are to be trebled in the Broken Hill region, an important fruit-growing area in NSW, and offenders will face $200 on-the-spot fines.

Spinks, P., Kakadu faces threat from aggressive but tiny invader. *The Age* 15 December 1997 p.A7. Populations of *Pheidole megacephala*, the big-headed ant, accidentally introduced to Australia about 100 years ago from Africa, are suddenly spreading rapidly through the suburbs of Darwin and threaten Kakadu National Park. At Howard Springs, 30 km from Darwin, it has exterminated nearly all of the native ants and has reduced populations of other insects by 40-85%, according to Ben Hoffman of CSIRO Division of Wildlife and Ecology.

Meredith, K., Bumble bee the crop buzzword. *Weekly Times* 21 January 1998 p.17.
Gosford IPM Services has applied to import *Bombus terrestris* to pollinate glasshouse crops such as tomatoes and field crops such as berries and nuts. Scientists at Flinders University oppose the importation and propose native carpenter bees as an alternative, but more research on these is needed.

Collins, J., 1998. Phosphine 'no great problem'. *Weekly Times* 28 January 1998 p.15. Used to fumigate >70% of grain stored in bulk handling systems (to kill grain beetles), phosphine "poses little or no health risk". CSIRO Stored Grain Research Laboratory has developed a device for field measurement of very low concentrations of the gas and found it to be present at levels well below NHMRC limits.

Edwards, Ted, 1997. Castniidae and the Republic. *ANIC News* (Aust National Insect Collection, CSIRO Entomology) No.11, October, pp. 8-11. The type species of the genus *Synemon*, *S. sophia*, was originally collected in Western Australia by Sir George Grey and described in 1841, but the species now identified as *sophia* is not that collected by Grey. Grey's specimens, bearing code labels, have now been located in the Natural History Museum, London, and the date of their collection roughly identified by keen detective work. Few specimens of Grey's species exist in collections. A field trip to rediscover the moth was organised and worn specimens were found. Grey attended the Federal Convention in 1891 and believed that Heads of State should be elected.

Dunn, K., 1997. Butterfly species of Wicks Reserve. *Galinia* (Newsletter of the Sword-grass Brown Butterfly Habitat Restoration Project, a project of the Knox Environment Society, 9 Lynne Ave., Wantirna South, 3152). 24 spp. incl. *Tisiphone abeona*, *Heteronympha paradelpha*, *H. banksii*, *Pseudalmenus chlorinda*. The newsletter also reports that larvae of *T.abeona* were transferred to Dexter's Bush, Heathmont, in an attempt to establish a population.

Neumann, F.G. and Collett, N.G., 1997. Insecticide trials for the Autumn Gum Moth (*Mnesampela privata*), a primary defoliator in commercial eucalypt plantations prior to canopy closure. *Australian Forestry* 60(2): 130-7. 27 spp. of euc. are known to be susceptible to damage, single trees and whole plantations can be stripped of foliage. Sprays of malathion, pyrethrins and chlorpyrifos caused 94 to 100% mortality of first to third instars after 2 days. Other insecticides including dipel resulted in inadequate control.

Webb, G.A. and Eldridge, R.H., 1997. *Arhopalus syriacus* (Reitter) (Coleoptera: Cerambycidae): a potential economic pest of *Pinus* in Australia, with notes on its biology and distribution. *Australian Forestry* 60(2): 125-9. Eastern Mediterranean sp. introd. to Sydney probably in the early 1950s.

Neumann, F.G. and Collett, N.G., 1997. Insecticide trials for the steelblue sawfly (*Perga affinis affinis*), a primary defoliator in young commercial eucalypt plantations of south-eastern Australia. *Australian Forestry* 60(2): 75-83. Known to attack 16 spp. of eucalypts. Fenthion, malathion and pyrethrin sprays provided excellent control.

Neumann, F.G., Collett, N.G. and Tolhurst, K.G., 1995. Coleoptera in litter of dry sclerophyll eucalypt forest and the effects of low-intensity prescribed fire on their activity and composition in west-central Victoria. *Australian Forestry* 58(3):83-98. First Australian study examining in detail the effects of fire on families and spp. of Coleoptera in native forest litter. Surface- active beetles were monitored near Daylesford and effects of single low-intensity burns during spring and autumn were assessed. 27,550 adult specimens, comprising 30 families and 109 spp. of which 78 spp. undescribed, were trapped in 3,140 methanol pitfall trap samples. Major families were Staphylinidae, Nitidulidae and Leiodidae. Control sites showed stable activity patterns over 4 years. Autumn burnt sites were also stable: burning had no effect on family or spp. richness. Spring burns boosted activity of some beetles with minor families showing an upsurge, possibly reflecting enhanced trapping efficiency due to litter reduction rather than increased population levels. Autumn fuel-reduction burns minimise possible short-term impact on surface-active Coleoptera.

Thanks to Kelvyn Dunn for contributing material.

Readers are invited to forward items suitable for inclusion in "Recent Articles of Interest" to the compiler at 16 Nabilla Avenue, Seaford, Vic., 3198.

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CONTRIBUTIONS TO THE *VICTORIAN ENTOMOLOGIST*

The Society welcomes contributions of articles, papers or notes pertaining to any aspect of entomology for publication in this Bulletin. Contributions are not restricted to members but are invited from all who have an interest. Material submitted should be responsible and original. The Editor reserves the right to have articles refereed. Statements and opinions expressed are the responsibility of the respective authors and do not necessarily reflect the policies of the Society.

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Contributions may be typed on A4 paper or *preferably* sent to the Hon. editor on an IBM formatted disk in *Microsoft Word for Windows, WordPerfect* or any recognised word processor software with an enclosed hard copy. Contributions may also be E-mailed to Internet address: dobrosak@.secv.telememo.au or dobrosak@werple.net.au When E-mailing, indicate italicised or underlined text by including a suitable ASCII character (e.g.*) before and after the relevant text. Formatted documents e.g. Word for Windows may be E-mailed as "uuencoded" text.

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CONTENTS

	Page
Minutes of General Meeting, 12 December 1997	1
Survey No. 3 of Organ Pipes National Park	2
Dunn, K.L. Biological Notes on some Eastern Australian Butterflies Part III	3
Author Index to Volume 27 (1997) of the *Victorian Entomologist*	8
Summary of Victoria's Box-Ironbark Forests and Woodlands Investigations Resources and Issues Report	11
Requests for Records of *Toxidia parvulus* (Plötz) (Lepidoptera: Hesperiidae) in Victoria later than 1945.	13
Recent Articles of Interest. Compiled by Ian Faithfull.	14

DIARY OF COMING EVENTS

Friday 20 February General Meeting
Dr. Paul Horne will present a talk on:
"Integrated Pest Mauagement and the role of Native Insects as predators"

Friday 20 March Council Meeting

10 am Saturday 28 February 1998
Survey No.3 of Organ Pipes National Park
(refer to Page 2 for details)

Friday 17 April General Meeting
Simon Hinkley of the Museum of Victoria will present a talk ou:
"An introduction to the Ants and their use as
Environmental Indicators in the Box Ironbark Region"

Scientific names contained in this document are *not* intended for permanent scientific record, and are not published for the purposes of nomenclature within the meaning of the *International Code of Zoological Nomenclature*, Article 8(b). Contributions may be refereed, and authors alone are responsible for the views expressed.

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